matrix heavily rises) which may lead to fall in the availability of the transfer radicals or to hampering of the chain propagation reaction for steric reasons.

Translated by A. CROZY

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EQUILIBRIUM IN THE CELLULOSE NITRATES–NITRIC ACID SYSTEM*

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Equilibrium has been studied in the cellulose nitrates–nitric acid–water system. Samples relating to equilibrium conditions at 293 K have been synthesized and their monomer composition determined by high resolution ^{13}C NMR. The equilibrium constants of the substitution reactions in the elementary cellulose unit have been calculated. The diagram of the distribution of the monomeric composition relative to the concentration of nitric acid in equilibrium conditions has been plotted.

THE DEVELOPMENT of high resolution ^{13}C NMR for analysing the monomeric composition of partially substituted cellulose nitrates (CNs) allows more detailed consideration of a number of aspects of their synthesis and structure.

The authors of Refs [1–3] relate the reaction of nitration of cellulose (C) to an equilibrium reaction although they note that the attainment of equilibrium is made very difficult by the

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